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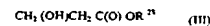
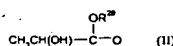
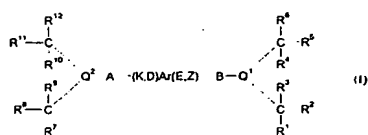
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(54) Title: CARBONYLATION OF VINYL ACETATE



(57) Abstract: The present invention relates to the carbonylation of an ester, specifically vinyl acetate. The process comprises the carbonylation of vinyl acetate comprising reacting vinyl acetate with carbon monoxide in the presence of a source of hydroxyl groups and of a catalyst system, the catalyst system obtainable by combining: (c) a metal of Group VIII B or a compound thereof; and (d) a bidentate phosphine of general formula (I). A process for the production of a lactate ester or acid of formula (II), comprising the steps of carbonylating vinyl acetate with carbon monoxide in the presence of a source of hydroxyl groups and of a catalyst system is also described. A process for the production of 3-hydroxy propanoate ester or acid of formula (III) comprising the steps of: carbonylating vinyl acetate with carbon monoxide in the presence of a source of hydroxyl groups and of a catalyst system also forms an aspect of the invention.

INTERNATIONAL SEARCH REPORT

PCT/GB 03/04679

A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>EP 0 495 548 A (SHELL INT RESEARCH) 22 July 1992 (1992-07-22) cited in the application page 2, line 1 - line 2 page 2, line 36 - page 3, line 6 page 3, line 25 - line 31 page 3, line 39 - line 50 Tables and II, example XII page 4, line 2 - line 15; claims 1,5-7,9-12</p> <p style="text-align: center;">--- -/--</p>	1-28

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 01 65583 A (BALDAUF JOSEF ; NOERL GERALD (DE); SIEMENS AG (DE)) 7 September 2001 (2001-09-07) cited in the application page 1, line 1 - line 24 page 2, line 18 - line 25 page 3, line 11 - page 5, line 24 page 6, line 13 - line 28 page 7, line 19 - line 22 page 7, line 29 - page 8, line 7 page 7, line 13 - line 21 page 9, line 8 - line 28 page 10, line 20 - line 22 claims 1,6-10; example 6; table III ---	1-28
A	US 4 377 708 A (MORRIS DONALD E) 22 March 1983 (1983-03-22) column 1, line 5 - line 51; claims 1,7-9,13-17; examples 2-7,10 column 9, line 37 - column 10, line 24 ---	1-28
A	US 4 500 727 A (KITAMURA TAKANORI ET AL) 19 February 1985 (1985-02-19) column 1, line 6 - line 8 column 2, line 63 - column 3, line 58 column 4, line 23 - line 34 column 5, line 4 - line 25 column 7, line 56 - column 8, line 7 column 8, line 38 - line 42 column 9, line 2 - line 12; claims 1-10; example 1 -----	1-28

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